Life Science 7 Mrs. Duddles

Q2 – Ecosystems, Biodiversity & Evolution



Objectives:

- Students will know how to use a microscope
- Students will explain how cells capture and release energy

White Space Question:

The microscope is one important tool used by scientists to study living things. What other tools are used by life scientists? Think about tools used by doctors and in laboratories.

- Finish Activity 8C "The Cells of Producers" lab
 - Observe prepared slides under low, medium, & high power objectives
 - Re-draw images seen under microscope in data sheet; add details
 - Answer Analysis Questions 1- 6 from lab packet in notebook
 - Complete Vocabulary and Write Conclusion



Thursday 01/21

Objectives:

- Students will know how to use a microscope
- Students will explain how cells capture and release energy

White Space Question:

How does the microscope change the image you see? (Hint: Compare the material you placed on the stage with what you see through the eyepiece.)

- Work on Activity 8C "The Cells of Producers" lab
 - Read & follow directions in lab packet
 - Prepare wet mount slides of celery stalk, Elodea, & onion slice
 - Observe slides under low, medium, & high power objectives
 - Draw images seen under microscope in data sheet
 - Answer Analysis Questions 1- 6 from lab packet in notebook
 - Clean up microscope lab stations



Wednesday 01/20

Objectives:

- Students will know how to use a microscope
- Students will explain how cells capture and release energy

White Space Question:

What is the magnification of the ocular?

Agenda:

- Work on Activity 8B "Introduction to Microscope" lab
 - Listen and watch teacher demonstrate lab
 - Read and follow directions in lab packet
 - Draw images seen under microscope in data sheet
 - Answer Analysis Questions
 - Clean up microscope lab stations

HW: Copy Activity 8C "The Cells of Producers" set up in to Science notebook



Objectives:

- Students will know how to use a microscope
- Students will explain how cells capture and release energy

White Space Question:

How do you find the total magnification?

- Watch teacher demonstrate proper handling of microscope
- Take quiz on parts of microscope & proper use of microscope and the meaning of magnification
- Turn in quiz and "Introduction to Microscope" note sheet for grading

Monday 01/18

WCS District - No School MLK Holiday





Friday 01/15

Objectives:

- Students will explain how cells capture and release energy
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

What is cellular respiration?

Agenda:

- Discuss and review Activity 8 "Photosynthesis and Cellular Respiration" book reading, questions, vocabulary, Analysis Questions and Conclusions
- Set up Activity 8B "Introduction to Microscope" in Science Notebook
 HW:

Complete note-sheet for Activity 8B "Introduction to Microscope" Be ready for an open-notes quiz on the Microscope





Thursday 01/14

Objectives:

- Students will explain how cells capture and release energy
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

Describe the energy transformation that happens in the process of photosynthesis (from what type of energy to what type of energy).

- Finish Activity 8A Lab: "A Producer's Source of Energy"
 - Make observations of vials; record color change of BTB solution
 - Answer Analysis Questions
 - Discuss & review
- Discuss and review Activity 8 "Photosynthesis and Cellular Respiration" book reading, questions, vocabulary, Analysis Questions and Conclusions





Wednesday 01/13

Objectives:

- Students will explain how cells capture and release energy.
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

How do animals get food? Explain.

Agenda:

- Start Activity 8A Lab: "A Producer's Source of Energy"
 - Watch teacher demo lab. Read & follow lab packet to complete lab.
- Finish Activity 8 "Photosynthesis and Cellular Respiration" book reading, questions, vocabulary, Analysis Questions and Conclusions

HW:

Finish Activity 8 "Photosynthesis and Cellular Respiration" book reading, questions, vocabulary, Analysis Questions and Conclusions





Tuesday 01/12

Objectives:

- Students will explain how cells capture and release energy.
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

How do plants get food? Explain.

Agenda:

 Discuss and review Activity 6D "People, Birds, and Bats" lab activity

HW:

Copy Activity 8A Lab: "A Producer's Source of Energy" set up in Science notebook





Monday 01/11

Objectives:

- Students will explain how cells capture and release energy.
- Students will understand that classification systems help scientists organize and identify the 2.5 million known species.
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

Agenda:

- Start Activity 8 "Photosynthesis and Cellular Respiration" book reading and questions
 - Read pp 66 75 in Cells and Heredity book
 - Answer questions 1, 2, & 5 15; skip question 11
 - Do Lesson Review on page 77; questions #1 9

HW:

Finish Activity 8 reading, questions, vocabulary





Friday 01/08

Objectives:

- Students will understand that classification systems help scientists organize and identify the 2.5 million known species
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

Explain how "cold-blooded" and "warm-blooded" animals differ.

Agenda:

- Finish Activity 6D "People, Birds, and Bats" lab activity
 - Complete and turn in "People, Birds, and Bats" Data Sheet handout for grading
- Copy Activity 8 "Photosynthesis and Cellular Respiration" set up in to Science notebook

HW:

Copy Activity 8 "Photosynthesis and Cellular Respiration" set up in to Science notebook





Thursday 01/07

Objectives:

- Students will use the Five-Kingdom Classification System to identify different vertebrate classes.
- Students will understand that classification systems help scientists organize and identify the 2.5 million known species.
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

In which phylum are humans classified?

- Review Activity 6C Analysis Questions
- Start Activity 6D "People, Birds, and Bats" lab activity
- Science Notebook check for Activities 6A, 6B, 6C & 6D





Wednesday 01/06

Objectives:

- Students will understand that classification systems help scientists organize and identify the 2.5 million known species.
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

List the following categories in order of hierarchy in the classification system that we are studying (phylum, species, kingdom, genus).

Agenda:

- Finish Activity 6C "Classifying Animals"
- Discuss & review Activity 6C

HW:

Set up Activity 6D "People, Birds, and Bats" in Science notebook





Tuesday 01/05

Objectives:

- Students will understand that classification systems help scientists organize and identify the 2.5 million known species.
- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change

White Space Question:

Name the five kingdoms found in the five-kingdom classification system.

- Continue Activity 6C "Classifying Animals"
 - Complete Parts 1 & 2 with your lab group
 - Answer Analysis Questions





Monday 01/04

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

Name the factors that make an introduced species competitive in a new ecosystem.

- Copy Activity 6C Field of Dreams Project: "Classifying Animals" set up in to Science notebook
- Start Activity 6C "Classifying Animals"

Monday 12/21 – Friday 01/01

WCS District - No School Have a safe and happy holiday break!

Friday 12/18 – ½ Day AM Only

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

- Short class period for HOUSE Challenge
- Watch TED Talk on the four fish we are overeating and how human activity can decrease biodiversity





Thursday 12/17

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

Name the three types of consumers.

- Discuss and review Activity 6B Field of Dreams Project: "Introduced Species"
- Turn in Activity 6 Abiotic Factor Post-Lab Work (bean plant experiment) packet if you did not do so Wednesday



Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

What is the primary role of decomposers in an ecosystem?

- Turn in Activity 6 Abiotic Factor Post-Lab Work (bean plant experiment) packet due today
- Attend 7th Grade Ice Skating Activity Day at Troy Sports Center





Tuesday 12/15

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

Introduced, non-native, exotic and non-indigenous are all words used to describe species that are outside of their normal range. What makes an introduced species an invasive species?

Agenda:

- Finish Activity 6B Field of Dreams Project: "Introduced Species"
 - Read & follow directions in lab packet
 - Share your findings on your assigned introduced species with your lab group

HW:

Complete Activity 6 Abiotic Factor Post-Lab Work handout; due Wednesday 12/16





Monday 12/14

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

What are some ways that the quagga mussel is changing the ecosystem of the Great Lakes?

Agenda:

- Start Activity 6B Field of Dreams Project: "Introduced Species"
 - Read & follow directions in lab packet

HW:

Complete Activity 6 Abiotic Factor Post-Lab Work handout; due Wednesday 12/16





Friday 12/11

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

Name one effect that the introduction of Nile perch have on the organisms that lived in Lake Victoria.

- Make observations for Act. 6 Abiotic Factor plant experiment;
 record data in Science notebook (5 mins)
- O Discuss & review Act. 6 Abiotic Factor Post-Lab Work handout due Wednesday 12/16
- Watch intro videos to Activity 6B Field of Dreams Project: "Introduced Species"





Thursday 12/10

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

Define the term "trade-off". Give an example of a trade-off.

- Turn in Ice Skating permission form; due today!
- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Take Activity 6A lab quiz; read & follow directions on test sheet
- When done, staple test sheet to answer sheet & turn in to basket
- Copy Activity 6B Field of Dreams Project: "Introduced Species" in to Science notebook





Wednesday 12/09

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

Imagine that you have a pet that you can no longer take care of: What is the humane & responsible thing to do with the animal?

- Turn in Ice Skating permission form; due 12/10
- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Finish Activity 6A Field of Dreams Project: "Non-native Species"
 - Discuss and review Activity 6A lab as a class
 - Be prepared for a quiz on Activity 6A lab tomorrow Thurs. 12/10





Tuesday 12/08

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will predict the effects of different interactions in communities

White Space Question:

What interaction describes the relationship between a hermit crab and the mollusk that previously lived in the hermit crab's shell?

What does a food chain represent?

- Turn in Ice Skating permission form; due 12/10
- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Finish Activity 6A Field of Dreams Project: "Non-native Species"
 - Record 15 facts from reading
 - Answer Analysis Questions then discuss with lab group
 - Discuss and review Activity 6A lab as a class if time





Monday 12/07

Objectives:

- Students will understand that the complexity of ecosystems makes it difficult to predict the outcome of ecological change
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

How do organisms get the energy they need for growth and other activities?

- Make observations for Act. 6 Abiotic Factor plant experiment;
 record data in Science notebook (5 mins)
- Set up Activity 6A Field of Dreams Project: "Non-native Species" in science notebook
- Start Activity 6A lab; read about the introduction of Nile perch to Lake Victoria & record 15 facts in Science notebook

Friday 12/04

Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Finish Unit 1 "Interactions of Living Things" assessment Part 2



Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

List 3 types of symbiotic relationships.

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Take Unit 1 "Interactions of Living Things" assessment
 - Conversation level is 0.
 - When done, staple answer sheets to test sheet & turn in to basket.
 - Read silently for remainder of class.



Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

What do the arrows in a food chain show?

Agenda:

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Discuss Unit 1 "Interactions of Living Things" Review

HW:

- Study for Unit 1 Test Thursday 12/03
- Unit 1 concepts: Activities 3 7





Tuesday 12/01

Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

Can a plant be a parasite of another plant?

Agenda:

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Discuss and Review Activity 7 "Interactions in Communities" lab & book work
- Work on Unit 1 "Interactions of Living Things" review

HW: Go to Mrs. Duddles' web page. Prepare for test Thursday 12/03 Unit 1 concepts: Activities 3 – 7



Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

How are animals interacting when they hunt in packs?

Agenda:

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (5 mins)
- Discuss and Review Activity 7 "Interactions in Communities" lab & book work

HW:

Test this week on Unit 1 "Interactions of Living Things" concepts:
 Activities 3 – 7

Wednesday - Friday 11/25 - 11/27

WCS District – No School Happy Thanksgiving!

Tuesday 11/24 – ½ Day PM Only

Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

What are some ways that you compete or cooperate with others?

Agenda:

- Make observations & record data for Act. 6 Abiotic Factor plant experiment
- Continue Activity 7 "Interactions in Communities" work:
 - Finish "Identifying Predator and Prey" lab activity
 - Finish Activity 7 book questions, Lesson Review, Vocabulary, Analysis Questions & Conclusion

HW:

- Finish all of Activity 7 work



Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

Give an example of a predator that is also a prey.

Agenda:

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook (3 mins)
- Continue Activity 7 "Interactions in Communities":
 - Read & follow directions to complete "Identifying Predator and Prey" lab activity

HW:

- Finish Activity 7 book questions, Lesson Review, Vocabulary, Analysis Questions, & Conclusion
- ∑ Test week of 11/30 on Unit 1 "Interactions of Living Things" concepts:

 Activities 3 − 7





Friday 11/20

Objectives:

- Students will predict the effects of different interactions in communities
- Students will explain how population size changes in response to environmental factors & interactions between organisms
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

What are some examples of limiting factors?

Agenda:

- Make observations for Act. 6 Abiotic Factor plant experiment; record data in Science notebook
- Set up Activity 7 "Interactions in Communities" in Science notebook; start book reading & questions

Notice:

Be ready for a test week of 11/30 on Unit 1 "Interactions of Living Things" concepts: Activities 3 – 7



- Students will explain how population size changes in response to environmental factors & interactions between organisms
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

Would the immigration or emigration of fruit flies on Maui cause the fruit fly population size to increase? Why?

- Work with lab group to design Activity 6 lab experiment to test the affect of an abiotic factor on the growth of a plant
 - Get approval for experiment plan and procedures
 - Set up experiment
 - Apply treatment; record data for Day 1



- Students will explain how population size changes in response to environmental factors & interactions between organisms
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

Give an example of an independent variable. Give an example of a dependent variable.

- Work with lab group to design Activity 6 lab experiment to test the affect of an abiotic factor on the growth of a plant
 - Complete Procedure steps #4 8

Tuesday 11/17

Objectives:

- Students will explain how population size changes in response to environmental factors & interactions between organisms
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

List 3 biotic factors present in the classroom. List 3 abiotic factors present in the classroom.

- Discuss and review Activity 6 "Population Dynamics" book reading & questions
 - Pages 30 39; Questions 5 9; 11, 12, 16 18

Monday 11/16

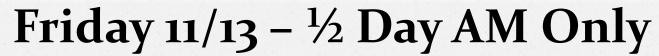
Objectives:

- Students will explain how population size changes in response to environmental factors & interactions between organisms
- Students will explain the flow of energy and the cycles of matter in ecosystems

White Space Question:

What are some benefits that plants get from the macronutrient phosphorus (P)?

- Activity 6 "Population Dynamics" set up Science Notebook check
- Work on Activity 6 "Population Dynamics" book reading and questions
 - Read pgs 30 39; Answer questions 5 9; 11, 12, 16 18



- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

Potatoes have a pH of 5.4 whereas pears have a pH of 3.9. Which is less acidic?

Agenda: (7C)

- Discuss and review Activity 5 Lab: Macronutrients Analysis Questions, Vocabulary, & Conclusion
- Set up Activity 6 "Population Dynamics" in Science notebook; HW if not done in class



- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

An egg has a pH of 8. Is it a strong base or a weak base?

Agenda:

- Discuss & Review N, P & K tests for collected soil samples
- Finish Activity 5 Lab Analysis Questions, Vocabulary & Conclusion

HW (7D & 7E): due Monday 11/16

Set up Activity 6 "Population Dynamics" in Science notebook



- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

Milk has a pH of 6.5. Is it a strong acid or a weak acid? Agenda:

- Conduct N, P & K tests for collected soil samples
- Read and follow the directions on rapitest test card
- Record data in Activity 5 Lab set up, Table 2





Tuesday 11/10

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

What is topography? How does topography affect soil formation?

Agenda: (short classes for HOUSE Challenges)

- Finish discussion on concept of pH:
 - https://www.teachertube.com/video/the-ph-scale-179776#
 - What is the pH of some common household items?
- Review handout on how to log onto the ThinkCentral website to access online book and resources for 7th Grade Life Science





Monday 11/09

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

How do plants affect soil formation?

- Cornell Notes science notebook check
- Discussion on concept of pH;
 https://www.teachertube.com/video/the-ph-scale-179776#
- Read pages 226 229 in Ecology and the Environment book; answer questions 8 – 10; 14 & 15





Friday 11/06

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will learn about freshwater on the planet, watersheds, stormwater, and how we use water

White Space Question:

Name 3 factors that affect soil formation.

Agenda:

Presentation on "How We Use Water" from Clinton River Watershed Council (CRWC) program coordinator, Ms. Lane

HW:

Finish Cornell Notes for Soil lecture notes (7C, 7D & 7E)





Thursday 11/05

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

Name the major essential nutrient elements found in soil. Agenda:

- Continue "Activity 5 Lab: Macronutrients in Soil"
 - Complete Cornell Notes for Soil lecture notes; finish for HW if not done in class (7D & 7E)
 - Conduct pH test for soil samples; record data in Science notebook (7C)





Wednesday 11/04

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

What is the relationship between decomposition and fossil fuels?

- Start "Activity 5 Lab: Macronutrients in Soil"
 - Start Cornell Notes for Soil lecture (7C)
 - Conduct pH test for soil samples; record data in Science notebook (7D & 7E)

Tuesday 11/03 WCS District – No School/Election Day





Monday 11/02

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will conduct four types of soil testing & will identify components of soil

White Space Question:

How are humans involved in the carbon cycle?

- New Seating Chart
- Discuss & review Activity 5 "Energy and Matter in Ecosystems" book reading & questions (7C)
- Start "Activity 5 Lab: Macronutrients in Soil"
 - Set up Science notebook for Act. 5 Lab (HW for 7C)
 - Start Cornell Notes for Soil lecture (7D & 7E)

Friday 10/30 – ½ Day PM Classes Only Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will analyze the parts of an environment
- Students will identify the abiotic & biotic factors of an ecosystem

White Space Question:

Are producers making new matter and energy? Explain.

- Finish Activity 5 "Energy and Matter in Ecosystems" discussion and review
- Watch "Planet Earth: Deserts" episode (if time)





Thursday 10/29

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will analyze the parts of an environment
- Students will identify the abiotic & biotic factors of an ecosystem

White Space Question:

In an energy pyramid, at what level is there the most energy? Agenda:

- Discuss and Review Activity 5 "Energy and Matter in Ecosystems" book reading & questions
- Turn in (except for MSVPA) "The Myth of the Predator" news article summary for grading if you did not do so Wednesday





Wednesday 10/28

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will analyze the parts of an environment
- Students will identify the abiotic & biotic factors of an ecosystem

- Finish Activity 5 "Energy and Matter in Ecosystems" book reading & questions (p 88-97; #5-17)
 - Do Activity 5 Vocabulary; Write Conclusion
- Read "The Myth of the Predator" news article; write a summary of article





Tuesday 10/27

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will analyze the parts of an environment
- Students will identify the abiotic & biotic factors of an ecosystem

- Shorten class period for HOUSE mtg & speaker (30 mins)
- Watch Anti-Bullying videos to prepare for Officer Graus presentation on bullying and cyberbullying
- Sign Butcher Anti-Bullying Pledge



- Bullying Information Video
- Bully Virus Video
- Anti Bully Heroes





Monday 10/26 - 7D & 7E

Objectives:

- Students will be able to explain the flow of energy and the cycles of matter in ecosystems
- Students will analyze the parts of an environment
- Students will identify the abiotic & biotic factors of an ecosystem

- Science Bizarre House visit (15 mins)
- Finish Activity 5 "Energy and Matter in Ecosystems" book reading & questions (p 88-97; #5-17)
- Do Activity 5 Vocabulary; Write Conclusion
- Read "The Myth of the Predator" news article; write a summary of article when finished with all work